

**SPDT Latching DC to 18 GHz Electro-Mechanical Relay Switch, Indicators, up to 90W, 12V, SMA**

The FMSW6396 is a Single Pole Double Throw (SPDT) electromechanical relay switch that operates across a wide frequency range of DC to 18 GHz and can handle up to 90 Watts of CW input power in a break before make condition. The design features a Latching actuator with 1W Indicators, and is rated for 5M life cycles for high reliability operation. Insertion loss is specified as low as 0.15 dB maximum and Isolation up to 85 dB minimum. Operating voltage is +12 V and performance is guaranteed over -25°C to +70°C. The rugged and compact package assembly supports SMA Female connectors and Solder Pins for DC Control. The model is guaranteed to meet MIL-STD-202 environmental test conditions for shock and random vibration.



**Electrical Specifications**

Switch Type	SPDT
Actuator Type	Latching
Switching Sequence	Break before Make
Actuator Options	Indicators
Indicator Rating	1 Watts / 32 Volts / 125 mA

Description	Min	Typ	Max	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Current @ 12 Volts		200		mA
VSWR		1.2:1	1.4:1	
Insertion Loss		0.15	0.35	dB
Insertion Loss Repeatability				
Isolation	65	80		dB
Input Power (CW)			60	Watts
Switching Time			20	ms

**Performance by Frequency**

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 6	6 - 12	12 - 18			GHz
VSWR, Max	1.2:1	1.3:1	1.4:1			
Insertion Loss, Max	0.15	0.25	0.35			dB
Isolation, Min	80	75	65			dB
Power In, Typ (CW)	90	75	60			Watts

**Mechanical Specifications**

<b>Size</b>	
Weight	0.104 lbs [47.17 g]
Package Type	Connectorized
Operating Life	5,000,000 Cycles

**Features:**

- Single Pole Double Throw
- DC to 18 GHz Frequency Range
- Isolation greater than 80 dB typical
- 5M Cycle Min Operating Life
- +12 Volt DC
- 90 Watt average Power
- Latching Actuator
- 1 Watt Indicators
- -25 to +70°C Operating Temperature
- Insertion Loss as low as 0.15 dB Max
- VSWR as low as 1.2:1 max
- SMA Female RF connectors
- Solder Pins for DC Control
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request

**Applications:**

- High Performance Relay Switch
- Military Communications
- Communications Systems
- Test & Measurement

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**Connectors**

RF Connector Type SMA Female  
 Control Connector Solder Pin

**Environmental Specifications**

**Temperature**

Operating Range -25 to +70 deg C  
 Storage Range -55 to +100 deg C

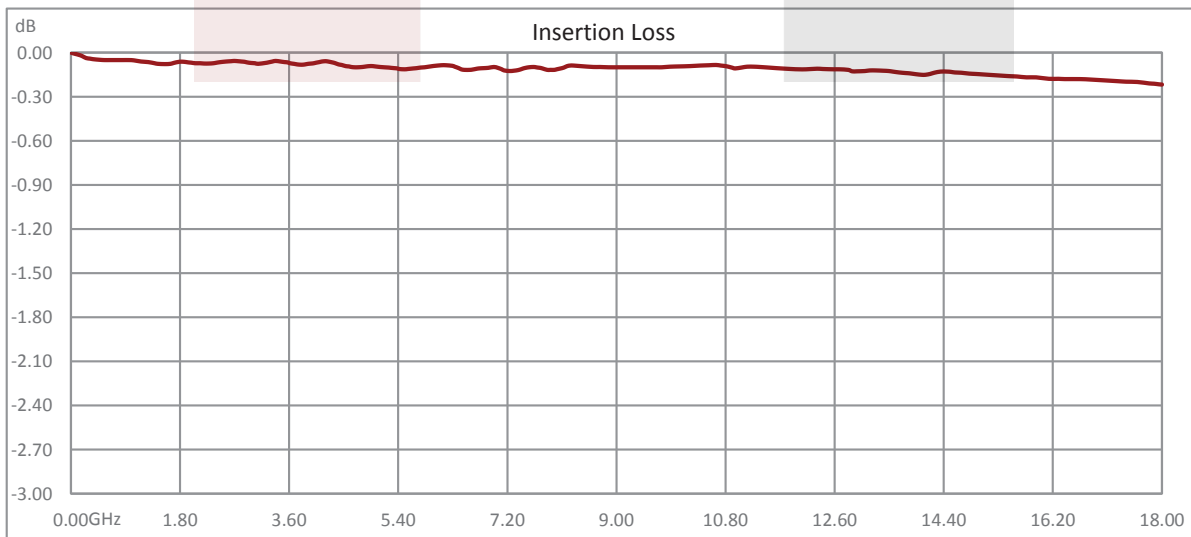
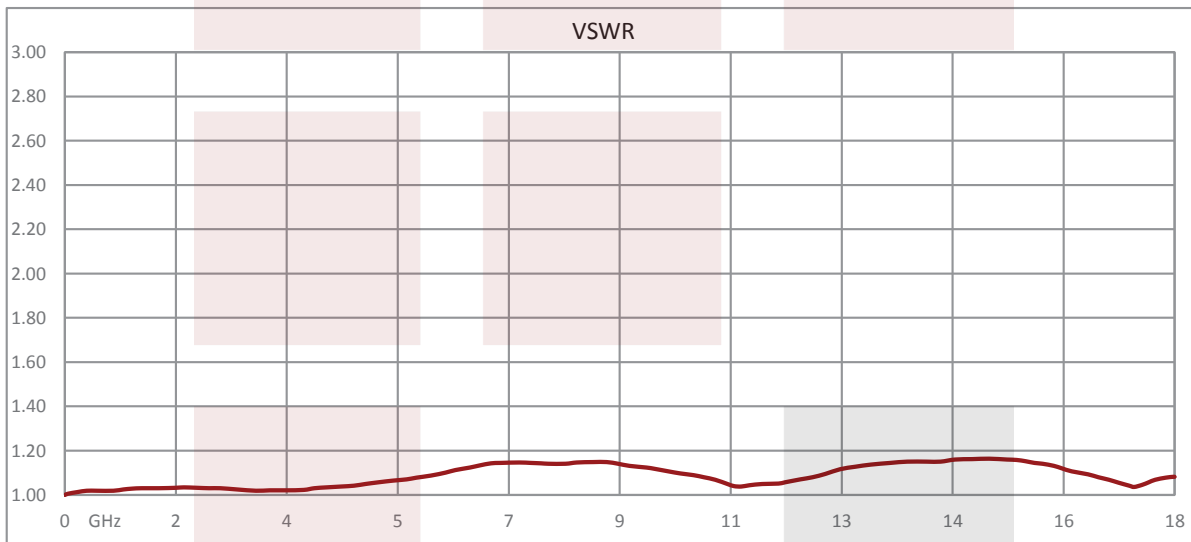
Shock MIL-STD-202 Method 213, Cond. D 500G Non Operating  
 Vibration MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

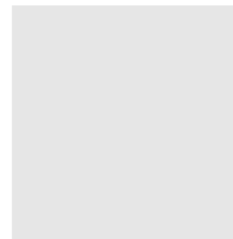
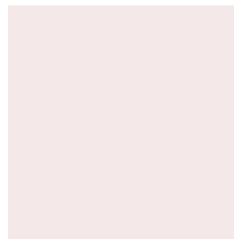
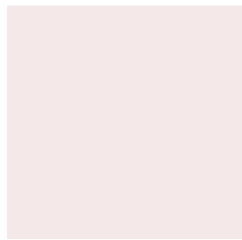
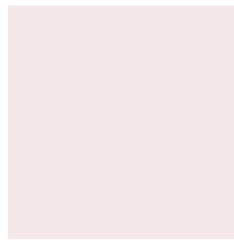
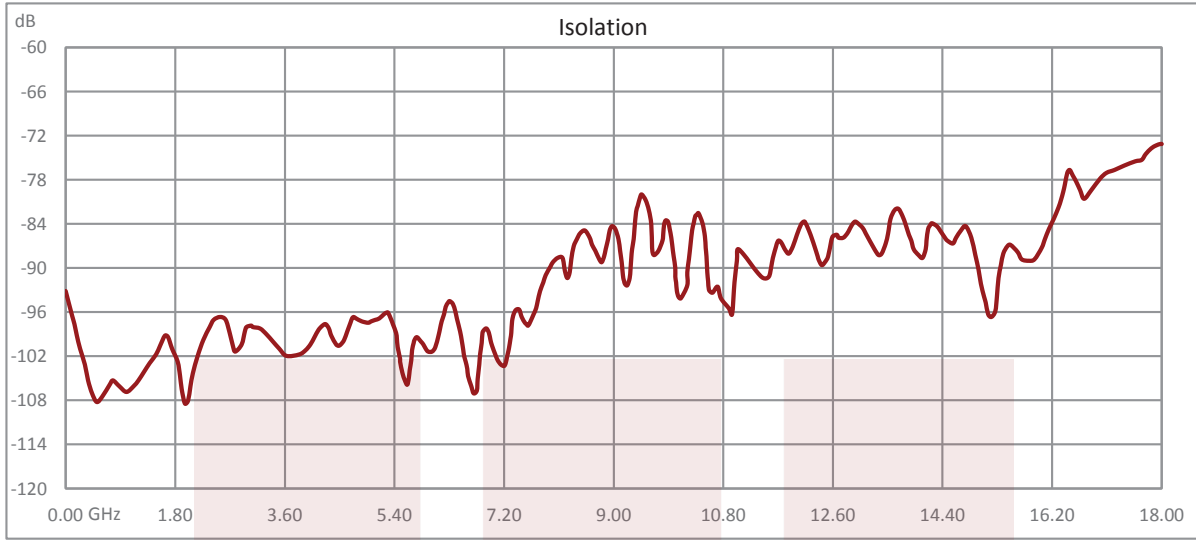
**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

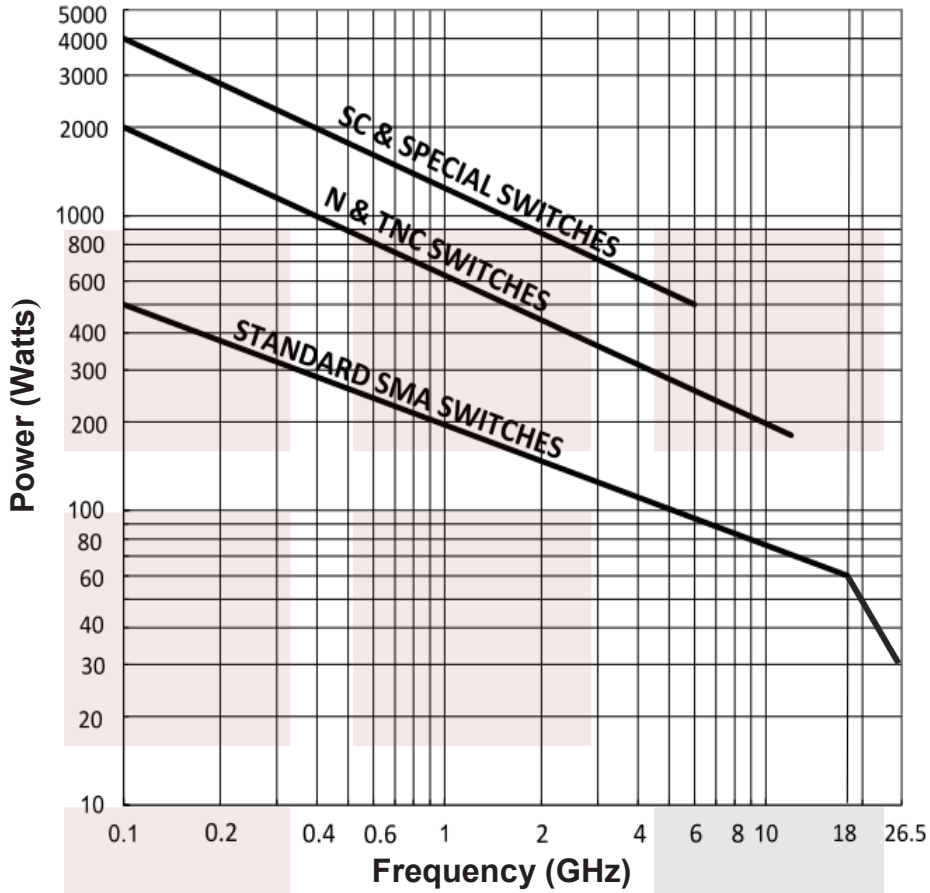
Notes:

**Typical Performance Data**





**Power Handling vs. Frequency & Connector Type**



**Environmental and Test Conditions:**

- Ambient temperature of 25°C or less
- Altitude: Sea Level
- Load VSWR: 1.20:1 max.
- Cold Switching

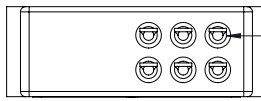
SPDT Latching DC to 18 GHz Electro-Mechanical Relay Switch, Indicators, up to 90W, 12V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SPDT Latching DC to 18 GHz Electro-Mechanical Relay Switch, Indicators, up to 90W, 12V, SMA FMSW6396](#)

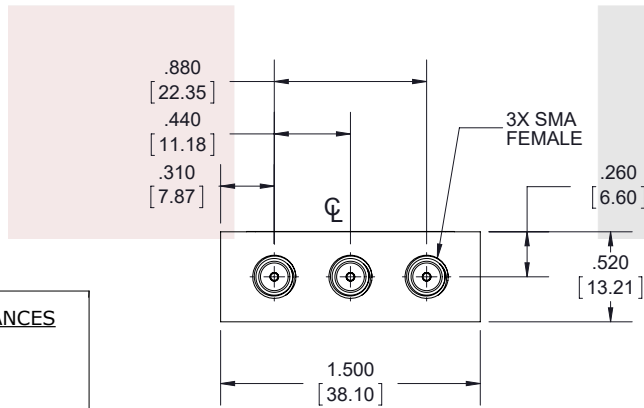
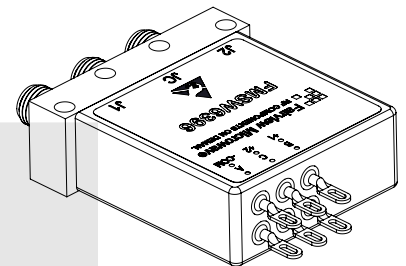
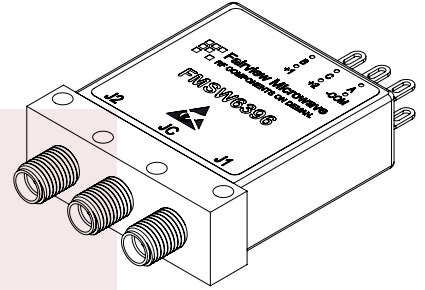
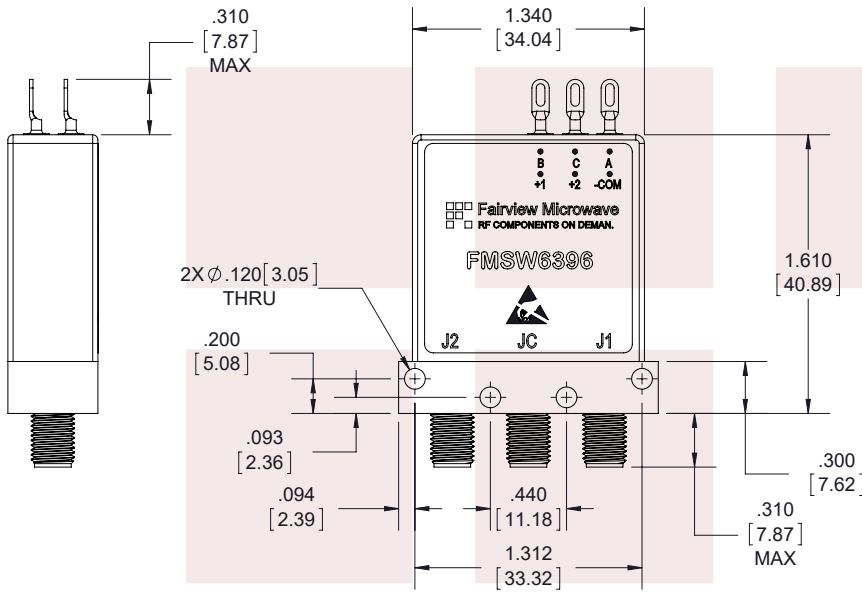
URL: <https://www.fairviewmicrowave.com/spdt-latching-18-ghz-electro-mechanical-relay-switch-indicators-60w-12v-sma-fmsw6396-p.aspx>

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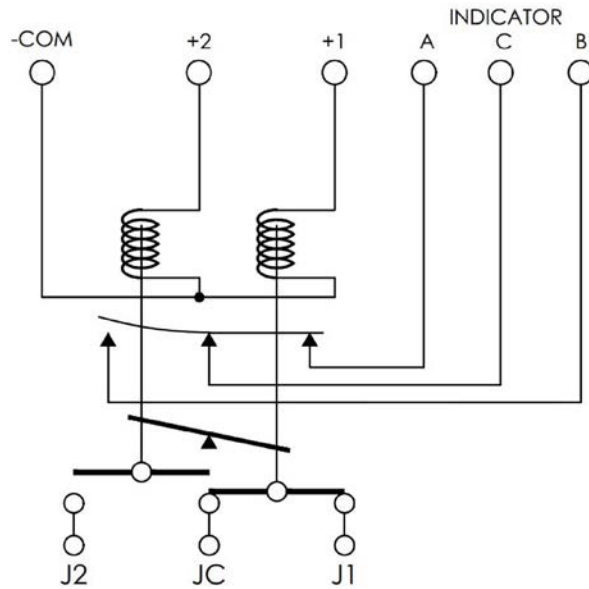
6X SOLDER TERMINALS  
SOLDER WIRE USING SN96,  
MAXIMUM TEMP 250 °C FOR  
NO MORE THAN 5 SEC.



**STANDARD TOLERANCES**  
.X  $\pm 0.2$   
.XX  $\pm 0.01$   
.XXX  $\pm 0.005$

\*STANDARD TOLERANCES APPLY  
ONLY TO DIMENSIONS IN INCHES

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TITLE SPDT Latching DC to 18 GHz Electro-Mechanical Relay Switch, Indicators, up to 90W, 12V, SMA		DWG NO <b>FMSW6396</b>		CAGE CODE <b>3FKR5</b>	
CAD FILE	090617	SHEET	1 OF 2	SCALE	N/A
		SIZE	A		7361



**SCHEMATIC SHOWN IN LATCHING POSITON**

**STANDARD TOLERANCES**

- .X ±0.2
- .XX ±0.01
- .XXX ±0.005

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CAD FILE 090617		SHEET 2 OF 2		SCALE N/A	
				SIZE A 7361	